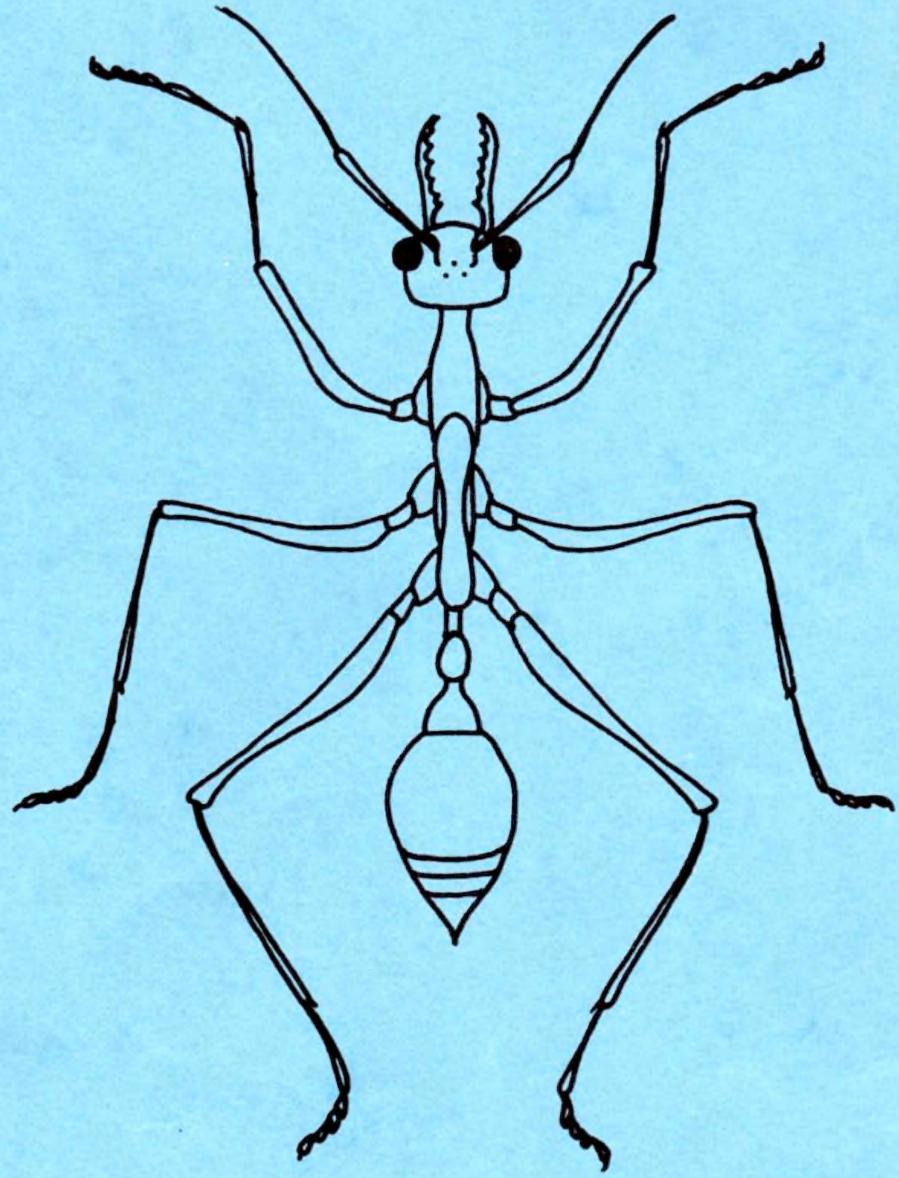
AUSTRALIAN ENTOMOLOGICAL SOCIETY



NEWS BULLETIN

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AUSTRALIAN ENTOMOLOGICAL SOCIETY

NEWS BULLETIN VOLUME 3, PART 2 - MAY, 1967.

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THE EDITOR WILL BE PLEASED TO RECEIVE CONTRIBUTIONS TO THE NEWS BULLETIN FROM INDIVIDUAL MEMBERS OF THE SOCIETY.

* * * * *

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A.C.T.:	Mr. I.F.B. Common, Division of Entomology, C.S.I.R.O., Box 109, Canberra City.
Victoria:	Dr. J.J.T. Evans, Department of Zoology, University of Melbourne, Parkville, N2.
Tasmania:	Prof. B. Johnson, Department of Zoology, University of Tasmania, Hobart.
S.A.	Professor T.O. Browning, Waite Agricultural Research Institute, P.M.B.1, Glen Osmond.
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T.P.N.G. Mr. T.V. Bourke, D.A.S.F., Popondetta, N. District, Papua.

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Royal Zoological Society of New South Wales: Mr. C.N. Smithers, Australian Museum, College Street, Sydney, N.S.W.

Entomological Society of Victoria: Mr. J.C. LeSouef, Charles Street, Blairgowrie, Victoria.

EXECUTIVE APPOINTMENTS

Bulletin Editor: Mr. C.N. Smithers, The Australian Museum, 6-8 College Street, Sydney, N.S.W.

Assistant Secretary: Mr. K.W.B. Utech, Division of Entomology, C.S.I.R.O., 677 Fairfield Road, Yeerongpilly.

Assistant Treasurer: Mr. T.A. Weir, Department of Entomology, University of Queensland, St. Lucia, Queensland.

Assistant Editor: Mr. R.W. Steele, Department of Primary Industries, Meirs Road, Indooroopilly, Queensland.

MATERIAL IN THIS BULLETIN MUST NOT BE REFERRED TO NOR REPRODUCED WITHOUT PERMISSION OF THE AUTHOR OF THE MATERIAL.

Articles, Notes, Letters to the Editor and other material for the News Bulletin should be sent to the News Bulletin Editor, or to your Regional Councillor.

REPORT FROM THE EXECUTIVE

Four Executive and three Officers' Meetings were held between 2 February and 20 April, 1967. The main business and decisions of these meetings were as follows:

Second Regional Councillor for Queensland: The number of financial members resident in Queensland having reached 77 the Executive, after consulting the Regional Councillor for Queensland, Mr. H.A. Standfast, appointed Mr. A. Macqueen, Bureau of Sugar Experiment Station, Gordonvale as the second Regional Councillor.

Membership: Eight new members were elected and one member resigned.

Executive Appointments: Mr. K.W.B. Utech was appointed as Assistant Secretary and Mr. T.A. Weir as Assistant Treasurer.

Mr. L.R. Greenup was appointed to act as Regional Councillor for N.S.W. during the absence overseas of Dr. G.J. Shanahan.

News Bulletin: Volume 3, Part 1 was posted to members on 6 March, 1967. The Executive decided that authors of contributions to the News Bulletin may order extra copies (25 cents per copy) provided that the Hon. Secretary is notified not later than the end of the month preceding the month of issue. The News Bulletin is issued in February, May, August and November.

Journal: An application to the Reserve Bank of Australia for a grant towards the publication of Vol. 6 of the J. Aust. ent. Soc. was refused. The Executive, after a review of the Society's finances, decided that Part I of Vol. 6 cannot exceed 72 pages of text including a foreword, plus the lift-out index of Vols. 1-5 J. ent. Soc. Qd. Publication of the list of Foundation Members will be deferred to Vol. 6 Part 2 and Part 2 will comprise a minimum of 72 pages. Sufficient papers have been approved to fill Part I which is expected to be issued on 30 June, 1967. Other papers submitted indicate that there will be no difficulty in filling Part 2.

Second Annual General Meeting: A preliminary announcement of the programme for the second A.G.M. appears elsewhere in this bulletin. The Organizing Committee, appointed by the Executive, consists of Mr. G. Pasfield (Chairman), Dr. G.J. Shanahan (Sec.), Mr L.R. Greenup (Ass. Sec.), Dr. E. Shipp, Mr. C.N. Smithers, Mr. A.N. Johnston, Mr. G.J. Snowball, Mr. P.C. Hely, Mr. B.M. Braithwaite, Prof. A.F. O'Farrell.

Since the President holds office for two annual terms it has been decided that an invitation should be extended to a distinguished entomologist to deliver an address at interim Annual General Meetings. On this occasion the lecture in place of the Presidential address will be called the W.W. Froggatt Memorial Lecture.

First Annual General Meeting: It was decided that a photographic record of Annual General Meetings would be established. A credit balance of $69.12 from the Organizing Committee of the 1 A.G.M. was handed over to the Executive.

Dr. T.E. Woodward: The Executive records with thanks the services of Dr. Woodward as Acting Editor during the absence overseas of the Editor, Dr. B.R. Champ

Dr. D.F. Waterhouse: Congratulations were extended to Dr. D.F. Waterhouse, F.A.A., F.R.S. on his election to the Royal Society.

AUSTRALIAN ENTOMOLOGICAL SOCIETY

2ND ANNUAL GENERAL MEETING

Letter from Organizing Committee

Dear Member,

It's time to focus attention on the 2nd Annual General Meeting of our Society - a residential conference, 8/11th February, 1968, University of New England, Armidale. The meeting commences at 9 a.m. Thursday, 8th February. The programme will be:

Thursday, 8th February -	Submitted papers
Friday, 9th February -	. Business Meeting . Special invited lecture . Session on 'Exotic Insects and Insect-borne Diseases'
Saturday, 10th February -	. Symposium 'Entomology and the Community' . Conference Dinner
Sunday, 11th February -	Excursion

A general request is now made to members for papers to be delivered on Thursday, 8th February. The presentation of submitted papers on the first day will provide ample opportunity for members to discuss them with authors during the rest of the meeting.

Fees for the meeting will be collected by the University. Cards for this purpose, plus a concessional form for airfares with East West Airlines, will be posted to you by the Organizing Committee. Full residence from Wednesday evening, 7th February to Sunday noon, 11th February, is $32, which includes the Conference Dinner and a registration fee of $5.

Planning of the 2nd Annual General Meeting will be greatly assisted if members would kindly complete and return the enrolment form at the back of this Bulletin by 1st August, 1967.

G.J. SHANAHAN,
For the Organizing Committee.

NEW MEMBERS

Elected by Executive on 24.2.67.

Dr. L.R. Clark, Division of Entomology, C.S.I.R.O., P.O. Box 109, Canberra City, A.C.T.
Dr. L. Barton-Browne, Division of Entomology, C.S.I.R.O., P.O. Box 109, Canberra City, A.C.T.
Mr. T.G. Campbell, Division of Entomology, C.S.I.R.O., P.O. Box 109, Canberra City, A.C.T.
Mr. B.F. Ingram, 76 Barton Road, Hawthorne, Qd.
Mr. H.P. Murray, Dept. Primary Industries, P.O. Box 931, Townsville, Qd.

Elected on 30.3.67.

Mr. E.G. Kearney, St. Patrick's College, Manly, N.S.W.
Mr. R.D. Howell, State Bank of South Australia, Tailem Bend, S.A.
Queensland, St. Lucia, Qd.
Miss J. Chiu Chong, Dept. of Entomology, University of Queensland, St. Lucia, Qd.

Resignation.

Mr. D.J. Bracey, 50 Main Street, Blackburn, Vic.

CHANGES OF ADDRESS

(State of previous residence is indicated in brackets)

Mr. P. Ferrar, P.O. Box 963, Townsville, Qd. (A.C.T.)

Mr. D.M. Reeves, Dunstan Pharmacy, 236 Elizabeth Street, Brisbane, Qd. (N.S.W.)

Mr. J.A. Pembery, Residence 1035, Iarowari-Sogeri High School,
Sogeri, Papua. (N.S.W.)

Mr. G. Gordon, Dep. of Zoology, University of N.S.W. (Q.)

Miss. E.B. Mann, C.S.I.R.O., 677 Fairfield Road,
Yeerongpilly, Qd. (T.P.N.G.)

Prof. F. Raw, Dept. of Entomology, University of Queensland,
St. Lucia, Qd. (unallotted)

Mr. P.G. Allen, Dep. of Agriculture, 133 Gawler Place,
Adelaide, S.A. (S.A.)

MEETING OF THE AUSTRALIAN ENTOMOLOGICAL SOCIETY-VICTORIAN BRANCH

On 3rd April, about 25 members of the Victorian Branch attended a meeting at the Victorian Plant Research Institute, Burnley. The meeting was addressed by Dr. David P. Annecke, Plant Protection Research Institute, Pretoria, South Africa. His subject was "The Biological Control of Citrus Scale." The problem of control of citrus pests in South Africa is complicated by the very different ecological and climatic conditions existing in the various citrus growing areas of the Republic. Dr. Annecke outlined these conditions and the various steps being taken to lessen dependence on sprays as a means of controlling insect pests.

ENTOMOLOGICAL SOCIETY OF VICTORIA

At the Annual General Meeting of the Entomological Society of Victoria held on Friday, 21st April, in the Lecture Hall of the National Herbarium, the following officers were elected:

President: Mr. J. Barnes.
Vice President: Mr. D. Holmes.
Secretary: Mr. G. Rushworth.
Treasurer: Mr. R. Condron.
Bulletin Editor: Mr. J. Barnes.
Committee: Miss Matheson, Messrs. D. Crosby, P. Kelly, R. Manski, C. Wilde and J.C. Le Souef.

A short address was given by the retiring President, followed by two colour films shown by Mr. A. Neboiss, one of which was taken during a collecting trip in South West Victoria.

The death took place on the 28th. December last of Mr. Alec Brown, an early Member of the original Victorian Society in which he acted as Secretary and Treasurer. He was a keen entomologist whose knowledge and experience will be greatly missed by all Members of the Victorian Society.

ELECTION OF DR. D.F. WATERHOUSE TO FELLOWSHIP OF THE ROYAL SOCIETY

Dr. D.R. Waterhouse has been elected a Fellow of the Royal Society, the highest scientific distinction that any scientist can achieve. Dr. Waterhouse is a distinguished research worker in the field of insect physiology and biochemistry, and for some thirty years has been devoted to the study of insects of economic importance. In particular, his work on digestion in the sheep blowfly and the digestion of wool by clothes moths and other insects has been outstanding. The Division of Entomology, CSIRO, of which Dr. Waterhouse has been Chief for the past seven years, has pioneered work in concepts of integrated pest control as an alternative to the indiscriminate use of pesticides. Graduating with first class honours and the University Medal from the University of Sydney in 1937, Dr. Waterhouse was awarded the degree of D.Sc. in 1952 and in 1953 shared the David Syme Research Prize. He is a Fellow of the Australian Academy of Science and a Fellow of the Royal Australian Chemical Institute. He has represented Australia at a number of overseas entomological conferences and serves on several expert advisory panels of WHO and FAO.

I.F.B. COMMON

INSECT COLLECTIONS

One of the functions of a News Bulletin of a Society such as ours is to serve as a forum for the open discussion of controversial issues, thus ensuring that developments affecting Australian entomology proceed on lines that are generally acceptable, and not satisfactory solely to sectional interests.

Reliably identified collections of insects are of basic importance to most entomologists; hence, matters concerned with collections are of general interest. In this article the views of the author are expressed on four issues affecting collections. These are the desirability of private collections: the loan of collections to specialists: the movement of holotypes and the decision of the Trustees of the British Museum to permit new holotypes of Australian insects, and also of other organisms, to be lodged in Australia.

The author is aware that, while his views on the matters discussed are shared by a great many experienced entomologists, some of them differ very considerably from others. The actions of the latter in respect to collections can have a long-term effect on Australian entomology as a whole, hence, the reasons for them need to be made widely known.

Private Collections.

In his Presidential Address to the Linnean Society of New South Wales in 1892, Professor Haswell mentioned some of the ways in which an individual, with the necessary enlightenment, might further the ways of science. Included among these were by adding, by his own investigations to the sum total of knowledge and by accumulating, in an intelligent way, material with the aid of which others might be able to advance the science in which he was interested.

When Professor Haswell gave this address, the Macleay Collection, which represented the accumulation of more than a century's collecting by three generations of Macleays, was the most notable collection of Australian insects in existence. Today, the Macleay Museum, in which the sadly neglected Macleay Collection is housed, is virtually a dead museum and the most considerable collections of Australian insects are in the Australian Museum, the National Museum of Victoria, the South Australian Museum, the Queensland Museum and the C.S.I.R.O. Division of Entomology. Although the collection of the last named organisation is the most recently established one it is now possibly the largest and almost certainly the one increasing at the fastest pace.

An integral and important part of all these collections are private collections which have been received by gift or purchase. Particulars of some of these are given in Musgrave's Bibliography of Australian Entomology (1932).

Private collections may be of several kinds, such as specialist collections assembled and studied by an authority on a group; collections of a particular group which have not been critically studied; regional collections and comprehensive collections based on widespread general collecting. While, from the point of view of their subsequent usefulness those in the first category are of greatest importance, all may serve "to further the ways of science".

Not only has the accumulating of private collections now housed in museums rendered a service to science but their making must have given great pleasure and interest to those who made them. These have included schoolmasters, doctors, clergymen, graziers, lawyers and public servants. Surely then, insect collecting needs to be regarded as a worth-while occupation and encouraged in every way possible?

There are, nevertheless, some professional entomologists in Australia who seek to discourage private collectors, though why they should choose to do so is hard to fathom. It is true that private collections are more prone to destruction by fire or neglect than institutional collections and they may be dispersed by the heirs of a collector or sold overseas. Surely, however, none of the above possibilities can be regarded as valid objections when the worst that can happen is for a private collection to cease to exist, or no longer be available in Australia, and this is no worse than if a collection had never been made at all!

It is said, because of the frailty of human nature, that post office employees are not allowed to collect stamps. Possibly it is undesirable for those in direct charge of insect collections to be allowed to maintain their own collections. Nevertheless, since the advancement of knowledge should take precedence over other issues, such restrictions ought not to apply to specialists who wish to accumulate a personal research collection which can be available to them wherever they may happen to be employed.

The Loan of Collections.

Institutions maintaining collections of insects are in the position of trustees on behalf of science and are responsible for the safeguarding and general care of their collections. Those supported from public funds as museums have the added responsibility of ensuring that their collections become increasingly useful.

It would seem, in recent times, that some institutions, in their zeal to increase the size and prestige of their collections, have tended to overlook the purposes they are intended to serve and have failed to appreciate that, unless collections are critically studied by specialists, they may be of little importance or value. They have also apparently failed to appreciate that very often lending institutions benefit more from making loans than borrowers may do from receiving them. These benefits may include the identification of formerly unidentified material and the recognition and description of new species and subsequent designation of types. Those who borrow collections are not always willing to make time-taking identifications without the compensating privilege of being permitted to retain their own selection of a proportion of the specimens lent. Such specimens as a specialist may wish to retain are presumably needed for a good reason and are more likely to serve the purpose of advancing science if in the custody of an active authority than if lying neglected in the cabinets of a museum.

The Movement of Holotypes.

Two separate issues are discussed below. One is concerned with the loan of types and the other with the undesirability of types being transferred between institutions.

The Loan of Types.

Generally speaking a specialist, unless he is undertaking a critical revision, or has some equally good reason, has no right to expect the loan of types from museums. Moreover, even in the above circumstances, he should not expect to be able to borrow types from more than one or a few institutions, but instead ought to seek to visit museums where types are held.

The holotypes of Australian insects are widely scattered and however desirable it might seem for them to be all assembled within a single collection in Australia, such a happening is unlikely ever to come about. The holotypes of Australian cicadelloids, for example, are contained in 14 institutions of which eight are within Australia and six overseas. Moreover, the number in overseas museums (301) is considerably greater than those in Australia (234). These particular types are distributed as follows: Australian Museum (106), South Australian Museum (45), Queensland Museum (33), Australian National Insect Collection, Canberra (24), National Museum of Victoria (9), Macleay Museum (9), Western Australian Museum (1), N.S.W. Department of Agriculture (1), British Museum (144), Bishop Museum (119), Stockholm Museum (13), U.S. National Museum (12), Vienna Museum (11), Moscow (2).

The Transfer of Types.

When an insect is described, particulars of the whereabouts of the type, or types, accompany the description. Except in special circumstances, such as when an institution closes down or changes appreciably in character, types should never be transferred from where originally lodged. Apart from the fact that the dispersal of types may mean breaking a trust, their inter-institution transfer can cause subsequent difficulties in determining their whereabouts. While certain benefits to Australian entomologists might result from the exchange of types of foreign insects held in Australia for those of Australian insects held overseas, it is suggested that such benefits would provide very inadequate compensation for the establishment of an undesirable precedent which could have most unfortunate repercussions.

The British Museum.

As might be expected the British Museum holds a very considerable number of types of Australian insects, in fact, there may well be more of such types in London than are contained in all Australian museums put together.

Fairly recently the Trustees of the Museum were persuaded to agree to send to Australia all holotypes of Australian insects described in the future. This decision, which was made without prior consultation with those in charge of Australian museums, in the writer's opinion, is a regrettable one for the following reasons:

1) Due to the attitude of universities to systematic studies, and to the fewer amateur entomologists, the quantity of systematic research being undertaken in Australia is progressively decreasing. For example, according to the Zoological Record, while in 1930 of a total of 44 papers published on the systematics of Australian insects, twenty-one were by authors resident in Australia, only 7 systematic papers by Australian entomologists were published

in 1960. The years quoted above were chosen at random and not specially selected.

2) There is no likelihood of the types of all Australian insects, or even of the majority of such types, ever been lodged in Australian institutions. In consequence, overseas travel for the purpose of studying types will remain a necessity for Australian entomologists.

3) The British Museum is not only one of the few museums which maintains a world collection, but it has by far the most important of such collections. In the interest of global faunal studies its collections need to be progressively strengthened and any steps which can prevent this happening are undesirable.

4) The interest of the British Museum in the Australian fauna may decrease and much accumulated material remain undescribed.

5) British Museum collecting expeditions to Australia are likely to receive less encouragement in the future than they have done in the past. In some groups of insects, more substantial additions to knowledge have resulted from material collected by such expeditions than from any collections made by local entomologists.

6) Once this decision of the Trustees becomes widely known other countries are likely to demand corresponding privileges. This will mean the loss of much valuable material to the Museum and cause a serious setback to entomology as a whole. Moreover, it is scientific internationalism that requires encouragement and not scientific nationalism.

J.W. EVANS

THE I.B.P. PROJECT ON APHIDS

As part of the International Biological Programme, five projects have been proposed for studying factors affecting the biological control of the arthropod pests of food crops. One of these concerns aphids. After consultation involving more than one hundred aphidologists in all parts of the world the project has been orientated around the green peach aphid, *Myzus* (*Nectarosiphon*) *persicae* Sulz., and other aphids associated with it on various crops. While the proposal is focussed on this one species of world wide importance, information obtained will also be relevant to the evaluation, selection and implementation of biological methods to be used in biological and integrated control programmes for crop aphids in general. Since the information required will be largely ecological, the project is being assisted by the publication of reviews of what is known of the biology and ecology of the aphids and their natural enemies.

A meeting to discuss methods and work plans for obtaining more information about biological aspects of aphid control was held in England at the Imperial College of Science and Technology (Field Station) on April 6th and 7th. The coordinator of the project, M.J. Way, brought together a small group of aphid workers from various parts of the world. They were helped by a representative group of British workers including experts in insect ecology. The meeting had no formal agenda but the discussion led to a clearer understanding of fields of work in which information was most needed. These were:-

1. Recognition and determination of the biological properties of aphid species and biotypes (a b c).
2. Host plant relationships (a b).
3. The determination of predatory species and of their role in aphid control (a b).
4. The evaluation of parasites and pathogens (a b).
5. The role of aerial movement (a b c).
6. The sampling techniques for aphids and associated species in plants (a b)
7. Population dynamics (b).

For the meaning of the letters in brackets see below.

Within these fields useful reviews of methodology were made, the comparisons of the experience of several workers with the same method being particularly illuminating. Finally, the ways in which the international nature of the project could be exploited were discussed.

Three approaches seemed open:

a) Complementary studies: where development of individual projects would result in much better coverage of the fields relevant to biological control;

b) Comparative studies: in which, for example, geographic separation of the study centres would provide opportunity to study the nature and effects of

i) the genetic make-up of the population,
ii) the physical and biotic environment, often using standardised methods.

c) Collaborative studies: in which a planned sequence of observations and/or experiments in different centres could provide principles with predictive value as, for example, studies in aerial movement in relation to future pest outbreaks. The approaches which were appropriate to each of the fields of study were discussed and these opinions are appended in brackets to the above listing.

It was decided that a set of methodology reviews by specialists in the different fields should be prepared and published in the I.B.P. Handbook series. The meeting agreed that although complementary studies could be initiated soon, some collaborative studies might need to wait until appropriate methodology had been selected and tested.

It was agreed to circulate detailed proposals to aphid workers throughout the world inviting their co-operation. Enquiries should be addressed to M.J. Way, Imperial College Field Station, Silwood Park, Sunninghill, Ascot, Berks, England.

(The above is the text of a report prepared by a working party after the meeting of April 6th and 7th mentioned in the second paragraph).

VISITORS TO AUSTRALIA

Dr. R.F. Shepherd of the Forestry Branch, Department of Forestry and Rural Development, Alberta, Canada, has just arrived in Australia to spend twelve months in the Division of Entomology, CSIRO, working on orchard mites with Dr. J.L. Readshaw and Mr. N.E. Gilbert.
Mr. C. Ashall of the Anti-Locust Research Centre, London, has just completed a period of ten weeks' participation in locust research with Dr. D.P. Clark of the Division of Entomology, CSIRO.
Dr. J.I. Magor of the Anti-Locust Research Centre, London, has just returned to England after 4½ years at the Division of Entomology, CSIRO, where she studied locust outbreak information.
Dr. D.F. Poulson, Professor of Biology at Yale University, U.S.A., who is currently visiting the Division of Entomology, C.S.I.R.O., paid a visit to South Australia from 1st to 4th May. He gave seminars in the Genetics Department, University of Adelaide (entitled "Genetic Control of Determination and Differentiation in *Drosophila*") and at the Waite Institute (entitled "Hereditary Infections in *Drosophila*"). He also visited the School of Biological Sciences at Flinders University.

RECENT VISITORS TO THE TERRITORY OF PAPUA & NEW GUINEA.

Dr. J.J.H. Szent-Ivany, who retired to Australia last year, arrived back in the Territory in March, to spend three months or so at the Bishop Museum (Honolulu) Field Station, Wau, where he will be working mainly on ecology of *Gymnopholus* spp. and other insects living at high altitudes.

Dr. J.L. Gressitt, Chairman, Entomology Department, Bernice P. Bishop Museum, Honolulu, Hawaii U.S.A., arrived in the Territory in mid-April for a two months visit.

Mr. J. Sedlacek will resume duties about the end of April as the Resident Entomologist at the Bishop Museum's Field Station at Wau, relieving Mr. A. Samuelson, who will return to Honolulu.

AUSTRALIANS' ACTIVITIES OVERSEAS

Dr. P.B. Carne recently spent three months in New Zealand, where he studied certain aspects of the ecology of the chrysomelid beetle Paropsis charybdis, and the damage it causes to eucalypts there. He was based at the Division of Entomology, DSIR, Nelson, but also collaborated closely with officers of the Forest Research Institute, who carried out experimental studies parallel to those he conducted in the South Island. P. charybdis is native to Australia and is one of a large group of chrysomelids occurring in eucalypt woodlands. This and other species of Paropsis are subject to severe insect parasitism in Australia, but this is entirely lacking in New Zealand, where a yet unidentified disease, thought to be caused by a virus, may significantly affect its ecology. Repeated defoliation by P. charybdis seriously affects many eucalypts grown in New Zealand. The search for effective parasites of this species in Australia and their establishment in New Zealand could substantially reduce damage caused to the more susceptible species.

Dr. R.J. Tatchell, Division of Entomology, C.S.I.R.O. Veterinary Parasitology Laboratory, Yeerongpilly left Brisband on 30 April for a 4-5 month overseas visit to Africa, Middle East, United Kingdom, Europe and Russia. Dr. Tatchell's interests lie particularly in the feeding and digestion of ticks and he will be attending the second Acarology Congress at Nottingham on 19-25 July, 1967.

Mr. N.C. Lloyd, District Entomologist at Orange, N.S.W. Department of Agriculture, left in May, 1967, for a three months study tour overseas. He will visit various institutions in Europe, Canada, United States of America and New Zealand. Enquiries into integrated pest control and mites of pome fruit will receive high priority.

Mr. B.M. Braithwaite, District Entomologist at Murwillumbah, N.S.W. Department of Agriculture, returned in April from New Zealand where he observed progress in the control of pasture pests and investigations being made to avoid insecticide residues. The development of equipment for application of chemicals to pastures also received attention.

Mr. K.M. Doull will travel to U.S.A. on study leave on July 1st. His activities in the U.S.A. will include attendance at the International Beekeeping Conference in Maryland. Most of his further 12 months there will be spent at the U.S.D.A. in Tucson, Arizona.

Dr. T.D.C. Grace will be participating in the 18th Annual Meeting of the Tissue Culture Association to be held in Philadelphia from 4th to 8th June. It includes a symposium on "The cell culture of lower vertebrates and invertebrates".

Mr. W.J. Roulston leaves Australia this month to spend four months visiting entomological research institutions in Japan, the United States, Europe, South America and Mexico. His discussions will centre mainly on the use of chemicals for the control of ticks.

APPOINTMENTS

Dr. G. Robertson, a graduate in Medical Physics from London University, has begun work at the Entomology Department, Waite Institute, on a part-time bases. She is studying methods of marking larvae and parasites of the red scale of citrus *Aonidiella aurantii*, using radio-active tracers.

Mr. C.R. Wallace, Entomologist, has re-joined the N.S.W. Department of Agriculture where he is working on pasture pests, after 15 years overseas with the Colonial Office Pool of Entomologists.

Mr. H.E. Paterson, has recently been appointed as Senior Lecturer in Genetics at the Zoology Department, University of W.A.. Mr. Paterson will continue studies of ecological genetics of the Diptera and hopes to commence a project in the Perth area on the *Culex pipiens* complex. Other possible studies include *Aedes australis* along the south coast of Australia, and *Musca domestica* and *Musca vetustissima*. The latter would be an extension of earlier work done in Africa, partly in collaboration with Mr. K.R. Norris of the CSIRO, Division of Entomology.

Mr. John Ross, B.Sc. has been appointed to a research position in medical entomology with the Victorian Department of Health, and will be stationed at Burnley.

Dr. Ifor Owen, parasitologist, has recently joined the Animal Industry Division of D.A.S.F., and will be stationed at the Veterinary Laboratory at Kila Kila. He will be mainly conducting research into the screw worm fly, and will investigate the possibility of control by releasing sterile male flies.

Dr. Owen was formerly with the Royal Veterinary College and with the Chelsea College of Technology, London.

RETIREMENT OF CARL HELY

Mr. P.C. (Carl) Hely, Chief Entomologist of the N.S.W. Department of Agriculture from 1963, retired in May, 1967. After obtaining the Hawkesbury Diploma in Agriculture in 1924, he graduated in Agricultural Science from Sydney University in 1929. Mr. Hely was a remarkable officer of the Entomology Branch in that his career displayed a unique awareness of theoretical and practical issues and he radiated a high sense of public duty. His coverage of entomology was such that anyone who contacted him in this discipline, no matter how often, derived new knowledge and inspiration from a discussion.

Officers of the Entomology Branch gave a farewell dinner for Carl on 18th May at Sydney University Staff Club. Speakers representing Government and industry paid fitting tribute to Carl's 38 years of public service. In brief, he was first appointed as resident entomologist in the Murrumbidgee Irrigation Area to work on insects of horticulture and rice. In 1933 he transferred to Gosford and made a special study of citrus pests. Whilst at Gosford he was seconded to Central Administration of the Department (1950-1953) and amalgamated the Gosford Citrus Research Station and the Narara Viticultural Station into the Gosford Horticultural Research Station. He became Senior Entomologist in 1953; ten years later he was promoted to Chief Entomologist. In 1964 he attended the XIIth International Congress of Entomology and the 8th Commonwealth Conference in London and visited entomological organisations in India, Israel, Europe, England and the United States of America.

G.J. SHANAHAN

PESTICIDE SCHOOL

A panel of eminent speakers from State and Commonwealth institutions and private industry delivered lectures at the Pesticides School held 10/11th May, 1967 at the Division of Science Services, N.S.W. Department of Agriculture, Rydalmere. The purpose of the School was to inform key field officers in the Department on the broad aspects of pesticide use, including residues, occupational hazards, pesticide tolerances, wildlife conservation and the measures to be taken to encourage the safe and intelligent use of pesticides.

G.J. SHANAHAN

SYMPOSIUM ON 'THE PHYSIOLOGICAL ASPECTS OF PLANT AND ANIMAL MANAGEMENT'

The Ecological Society of Australia plans to hold a Symposium with the above title, in Canberra in May 1968. Because preliminary enquiries have indicated wide potential interest in this topic the Council of the Society have decided to invite as many Departments of Biology, Geography, etc., in Universities, C.S.I.R.O. and State institutions, as can be reached, to signify their interest.

Department Heads are therefore requested to supply names of members of their staffs who may be able to contribute papers and of those who may wish merely to attend. It is emphasised that it is hoped to attract workers interested in natural communities, and in artificially manipulated communities (including stock management).

The idea behind the Symposium is to continue the series of debates and discussions on matters of deep interest to ecologists, and those in related fields, that the Society has recently been backing or promoting. It is because the Ecological Society of Australia Council believe that considerable benefit has accrued to ecologists from these meetings that they are so anxious that the series should expand and flourish. It is intended that papers given will be published in the 'Proceedings of the Ecological Society of Australia.'

The intention is to hold a two-day programme of several sessions in Canberra, together with field trips and excursions for those interested.

During the period for which it is intended to hold the Symposium (from 27th to 29th May, 1968 approx.), accommodation will be available for those requiring it at Garran Hall, A.N.U., at a cost of $5 per day for post-graduate students, $7.75 per day for others, all meals included.

Correspondence should be addressed to -

Dr. A.H. Weatherley,
Ecological Society of Australia,
Zoology Department,
The Australian National University,
Canberra,
A.C.T.

REVIEW

"Lepidoptera of American Samoa with particular reference to biology and ecology" by John Adams Comstock (Pacific Insects Monograph 11, pp. 1-74, 1966)

The collection of Lepidoptera, and indeed any insect group, over an extended period in the south-west Pacific must yield worthwhile zoogeographic data. When the collector has John A. Comstock's eager determination to rear and figure in colour the immature stages of as many species as possible, the result is of even greater interest. The author spent four months in 1961 collecting mainly on Tutuila Island and has listed 119 species, some of which had not been recorded previously from American Samoa. Many of these occur in Australia. The paper deals with the available literature on each species, and includes 23 half-tone figures of adults and attractive coloured figures of the larvae or pupae of 25 species. It should be used as a supplement to the purely systematic treatment of the Lepidoptera presented by Hopkins, Meyrick, Prout and Tams in Part 3 of "Insects of Samoa" (1927-1935), and is therefore of special interest to zoogeographers and to economic entomologists who may not be familiar with the early stages and the literature of many pest species.

As the author has intentionally followed the systematic sequence of "Insects of Samoa", the arrangement and, in a few instances, the nomenclature should be accepted with reserve. The work is a tribute to Comstock's industry during his brief stay in Samoa and to his artistic skill. Unfortunately, the larvae of many Lepidoptera are notoriously variable in colour and even in pattern. It is a pity therefore that the carefully prepared but largely superficial descriptions of larvae, and of course the colour figures, have not covered significant structural characters. This is especially true of taxonomically controversial genera such as Hyblaea, now separated as the family Hyblaeidae, and the thyridid genera Striglina, Rhodoneura and Brixia. It is also disappointing to find that, despite the title of the paper, the information presented on the biology and ecology of the Samoan Lepidoptera is in fact very limited. Some typographical and other errors have been noted. The reference to Tiracola plagiata samoaensis Tams (p. 18) refers in fact to Tiracola rufimargo samoaensis Tams; and Hypsipyla (p. 52) and Trymalitis (p. 63) have been misspelled. As cheesmanae and labradus are both geographical races of otis (p. 11), the author should not have been surprised that he did not collect labradus in Samoa.

I.F.B. COMMON

INDEX OF ENTOMOPHAGOUS INSECTS

The International Organization of Biological Control (O.I.L.B.) is probably best known outside Europe as the publisher of the scientific journal ENTOMOPHAGA, in which appear papers relating to the utilization of insect parasites, predators and pathogens for biological control. Now under its auspices the first of a new series of taxonomic monographs (INDEX OF ENTOMOPHAGOUS INSECTS. Edited by V. Delucchi and G. Remaudiere. Palearctic Tetrastichinae by G. Domenichini. (Paris: Le Francois, 1966. 101 pp.) Price, $US 9.00 or F 44) has been launched.

The Index is much more than a catalogue. Concise information is presented on the taxonomy, biology, host relationships and distribution of the entomophagous species considered and a complete bibliography given to them and their hosts. Publication is in English and there is an introduction in English, French and Spanish.

In the first issue dealing with the Palaearctic Tetrastichinae, which comprise 231 valid species included in 7 genera, a full taxonomic revision is not attempted and no definition is given of the subfamily nor of the genera contained within it. The author notes that the Australian genera, which are in need of revision, are apparently more numerous than the Palaearctic ones, and suggests that some genera, especially those described by Girault, may have to be synonymized with Tetrastichus. Nearly 800 species of the subfamily have been described for the world.

The Tetrastichinae are normally parasitic in habit and show great diversity in their host relationships. Many species exhibit marked ecological specificity and attack their hosts in well defined ecological niches, while others confine themselves to hosts of the same taxonomic group, e.g. Cecidomyiidae. Some species are obligatory or facultative hyperparasites. A few Tetrastichinae have already been successfully used in biological control, e.g. Tetrastichus asparagi and T. brontispae, and others may be so utilized in future.

E. McC. CALLAN

ARBOVIRUS STUDIES CAPE YORK

The Queensland Institute of Medical Research field station maintained at Mitchell River Mission (now Kowanyama) was visited from February 14th to March 18th. The stay was somewhat longer than planned as heavy rain interrupted air services for several weeks. Workers from the Institute have been engaged in studies of arboviruses in Cape York since 1957. The present trip was part of the field programme associated with this study and was designed to provide mosquito and bird material for virus isolation attempts. A collection of bats (known hosts of arbovirus in other countries) was to have been made; however despite extensive searches no bats were collected. Aboriginals reported that bats left the area during the wet season but were plentiful during the dry.

The recent wet season was the wettest since 1963 and the mosquito density was the highest recorded. Human bait collections regularly exceeded 500 for less than 30 minutes effort. In all 35,000 adult mosquitoes were collected by light traps, animal baited traps and human bait collections. Specimens were stored and transported to Brisbane at -180°C in liquid nitrogen. Operation through this period with dry ice would not have been practicable with the disruption of air services. The liquid nitrogen facilities allowed for at least 5 weeks storage without replenishment of N_2.

Six species not recorded in previous collections were taken bringing the species total for the area to 47. Processing of the material will not be completed for some months to come.

H. STANDFAST.

ENTOMOLOGICAL RESEARCH AT MONASH UNIVERSITY

As part of an investigation into energy flow in ant nests, Dr. George Ettershank and Miss Gill Cutress are measuring the respiratory rates of single ants. The work has required the design and construction of a respirometer which can handle respiratory rates of 1-8 microlitres per hour. A recording system has been devised which is based on the electrolytic replacement of the oxygen consumed. A bomb calorimeter capable of handling biological material in the 10 - 100 mg weight range has also been constructed.

ANALYSIS OF SILKWORM EXCRETA

An analysis of silkworm excreta has shown the following result:

Nitrogen	2.31%
Phosphorus or P_2O_5	0.188%
Potassium as K_2O	1.30%
Moisture	10%

On an average basis, P_2O_5 is a little low, N is normal and K_2O a little above average. This material was evaluated as about equivalent in fertilizer value to low grade poultry manure and could be used for pot-plants.

Item based on information from
MISS O. ASLETT.

OFFICIAL OPENING OF THE PLANT RESEARCH LABORATORY, MILDURA.

On 12th April, the Honorable G.L. Chandler, M.L.A., State Minister for Agriculture, Victoria, officially opened the new Plant Research Laboratory at Mildura. $35,000 has already been spent on buildings; part of this was contributed by primary producers' organizations. At present, the laboratory is staffed by two entomologists, Mr. H. Schurr and Mr. M.J. Byrne, and their assistants. In the near future, a plant pathologist will commence duty at the laboratory.

The opening was attended by about 200 growers, departmental officers, and visitors.

PERSONAL NOTES

[redacted]

Dr. Peter Williams from Imperial College, London, arrived in Australia last October, after spending six weeks at the Pest Infestation Laboratory in Slough. While in Victoria, at the Victorian Plant Research Institute, Burnley, he will study pests of stored grains, commencing with a survey of farms to examine possible sources of infestation, such as silos.

Mr. L.E. Koch, Curator of Insects, W.A. Museum recently returned from a visit to England and the Continent where he spent 7½ months at the British Museum. During this period he worked mainly on the taxonomy of Australian scorpions, specially the Scorpionidae.

Miss Ann May of the Entomology Department, University of Queensland, spent three months this year studying current research methods used in the taxonomy of Lepidoptera with Mr. I.F.B. Common of the Division of Entomology, CSIRO.

BUTTERFLY MIGRATION STUDIES IN AUSTRALIA

The study of long-distance butterfly migration is in its infancy in Australia. With the co-operation of interested persons in various parts of Australia a study of this type of behaviour is being made.

Two lines of investigation are being used:

a) Observation and recording of flight direction of individuals and massed flights.
b) Marking and release of specimens.

At present, voluntary co-operators are being asked to report on flights of certain species and are marking and releasing specimens. We provide the marking materials and recording sheets. In particular, Wanderer and Caper White butterflies are recommended for marking, but there is no restriction on species being marked and released. When a marked specimen is recaptured the marker is informed. From time to time reports on progress in the work are sent to the co-operators and we are now building up a picture of the movements of some species.

It does not matter whether markers are able to mark many or a few specimens in a season.

Every specimen is POTENTIALLY IMPORTANT. The more we mark and release the better. Marking is easily carried out and is quite good fun. Several school teachers in New South Wales are helping in the scheme and find this a useful practical exercise for their classes.

Anyone interested in assisting us in marking and releasing butterflies can obtain further information from Mr. C.N. Smithers, Australian Museum, College Street, Sydney, who will be very pleased to answer any enquiries.

C.N. SMITHERS.

AUSTRALIAN ENTOMOLOGICAL SOCIETY

2nd Annual General Meeting
University of New England, Armidale
8th to 11th February, 1968

Members who expect to attend the meeting are asked to fill in this form.

1. Name (Block Letters) . . . .

2. Address . . . .

   . . . .

3. Title of Submitted Paper . . . .

   . . . .

   (A precis of about 150 words will be requested later.)

4. Accommodation

   Will you want accommodation at the University - Yes/No.

   Will you be accompanied by wife/husband.

Please return as soon as possible

and

before 1st August, 1967 to

Mr. G. Pasfield,
Department of Agriculture,
P.M.B. 10,
RYDALMERE. N.S.W.

Please Note: All fees will be collected by the University. An enrolment card will be forwarded to you by the Organizing Committee.

Costs	Registration	\$ 5.00
	Full residence	\$27.00
	Non residence, with lunches	\$ 9.50
	Non residence, no meals	\$ 5.00 (No extra charge for Conference Dinner)